APPLICATION NO: 09/925,109 Filed: August 8, 2001

Inventors: Millard E. Sweatt III et al.

Title: Method & System for Remote Television

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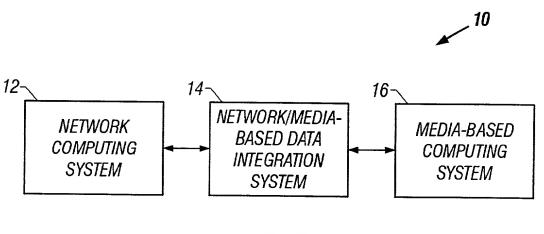


FIG. 1A

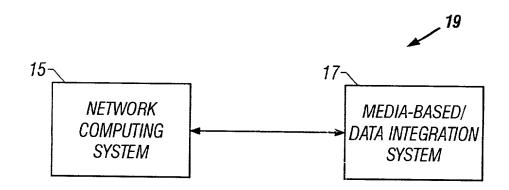


FIG. 1B

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Title: Method & System for Remote Television
Replay Control
Sheet 2 of 34 — DVR/PVR ✓ 37 — PDA — MOBILE PHONE — PAGER — APPLIANCES 36 38 O O MEDIA-BASED 32 DEVICE RNS SERVERS 34 16a~ 58 09 BATCH REQUEST SERVER 48~ \9p DATA BASE DATA BASE SERVICE ONLINE FIG. 2 -99 MIDDLE TIER SERVER 148~ 30 WEB SERVER WEB SERVER WEB SERVER U 28-1~ -22 -26 BROWSER 12a~

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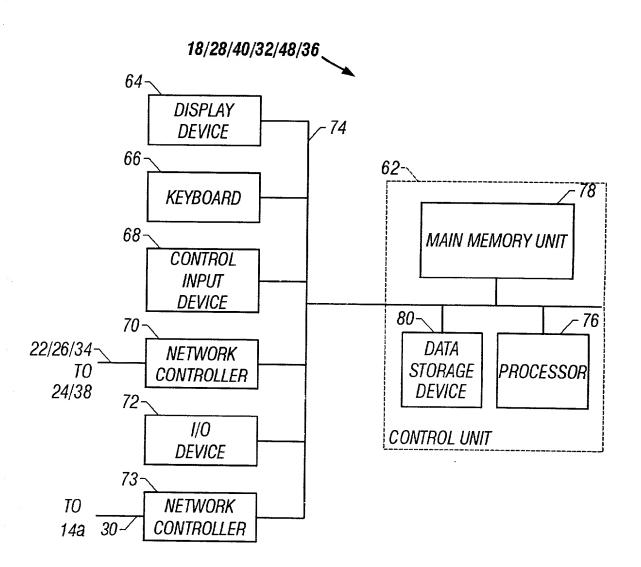


FIG. 3

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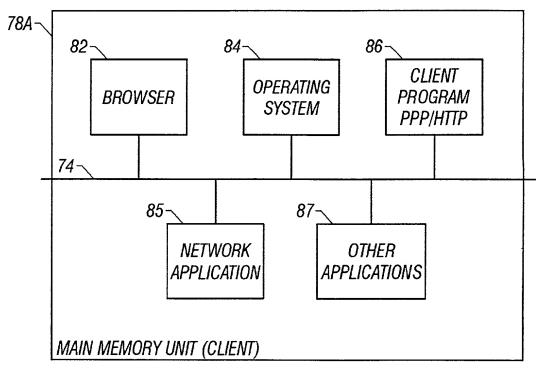


FIG. 4A

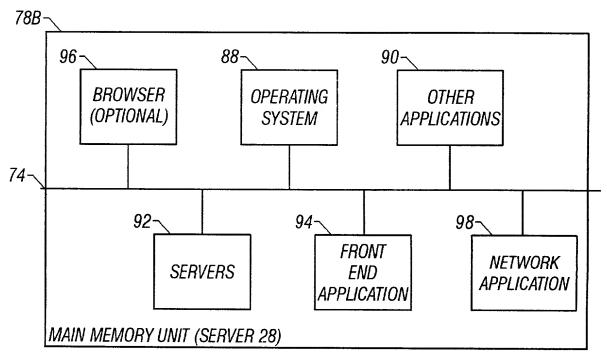


FIG. 4B

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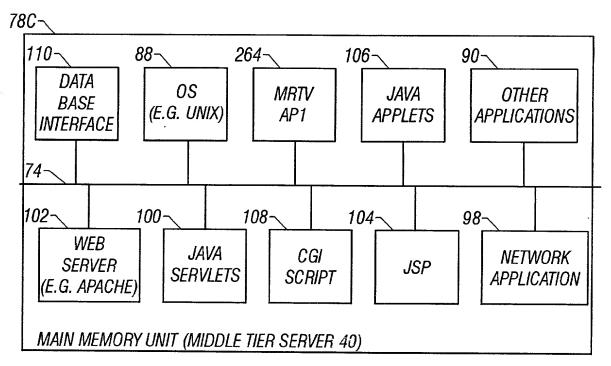


FIG. 4C

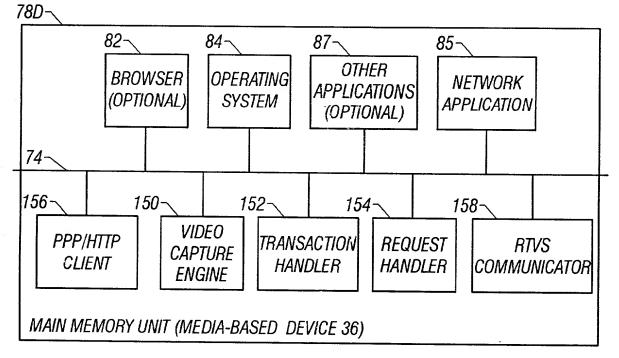


FIG. 4D

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Title: Method & System for Remote Television Replay Control Sheet 6 of 34 37 36 38 O O MEDIA-BASED 32 RNS SERVERS CRUNCHER DEVICE 34 16a-587 9 BATCH REQUEST SERVER 48~ TMS FTP SERVER MREPG DATA BASE ONLINE SERVICE DATA BASE FIG. 5 42 MIDDLE TIER SERVER 14a~ 30 30 2 E.G., 逐避回 SERVER WEB SERVER WEB SERVER WEB 28-1~ 28-2 20 18 56--26 22 BROWSER

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Title: Method & System for Remote Television

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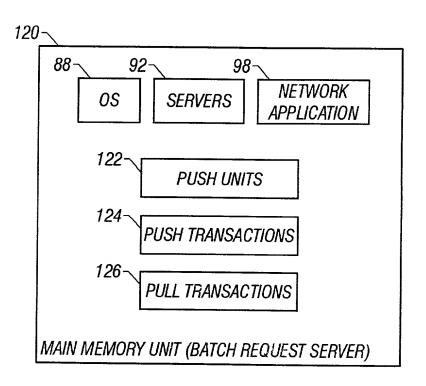


FIG. 6

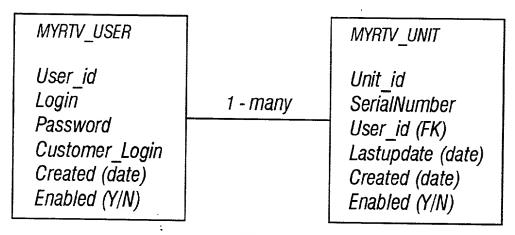


FIG. 7

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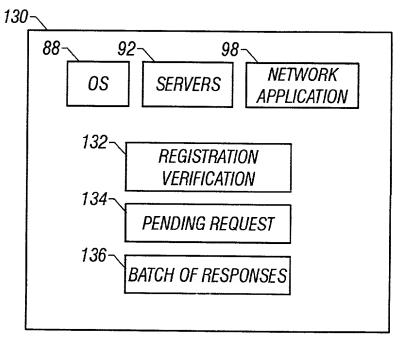


FIG. 8

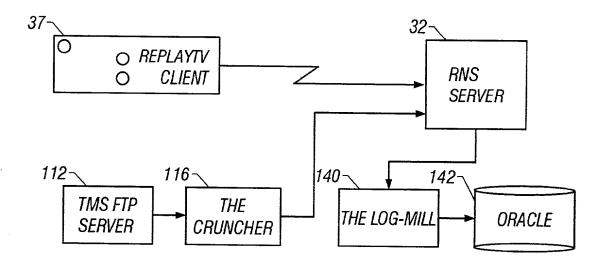
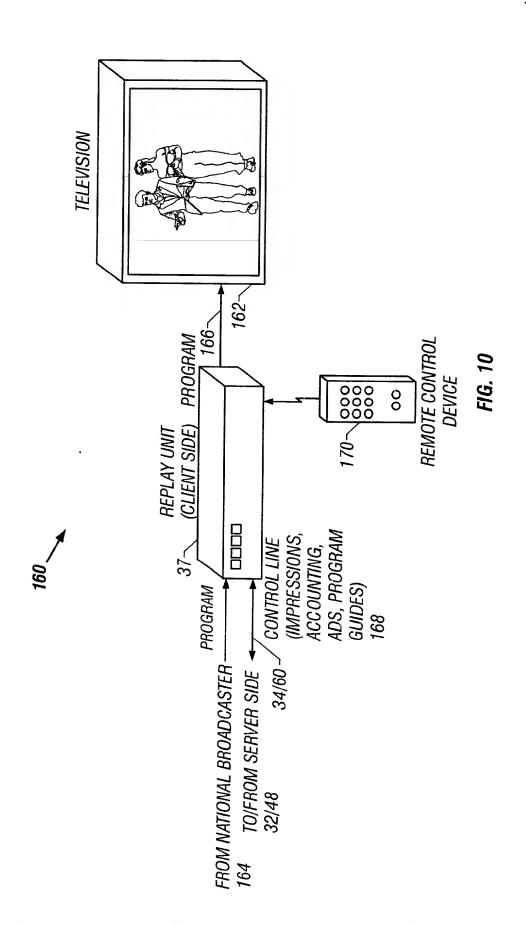


FIG. 9

APPLICATION NO: 09/925,109 Filed: August 8, 2001 Inventors: Millard E. Sweatt III et al.

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Street 4 no 34



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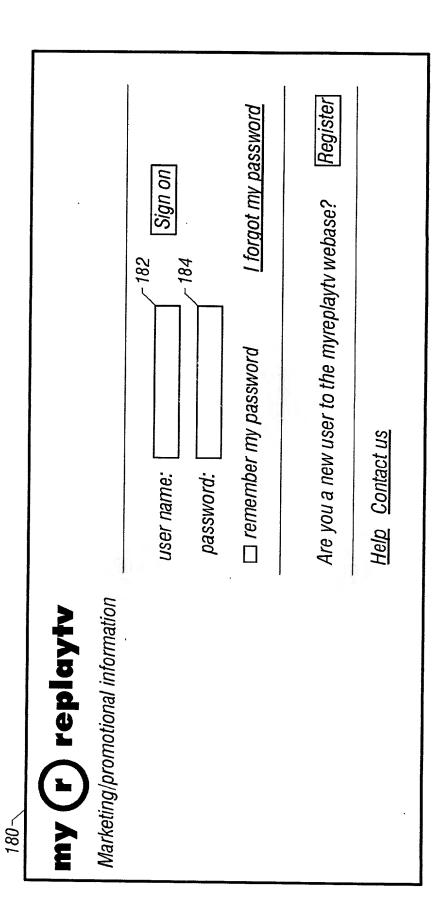


FIG. 11

APPLICATION NO: 09/925,109 Filed: August 8, 2001

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Title: Method & System for Remote Television

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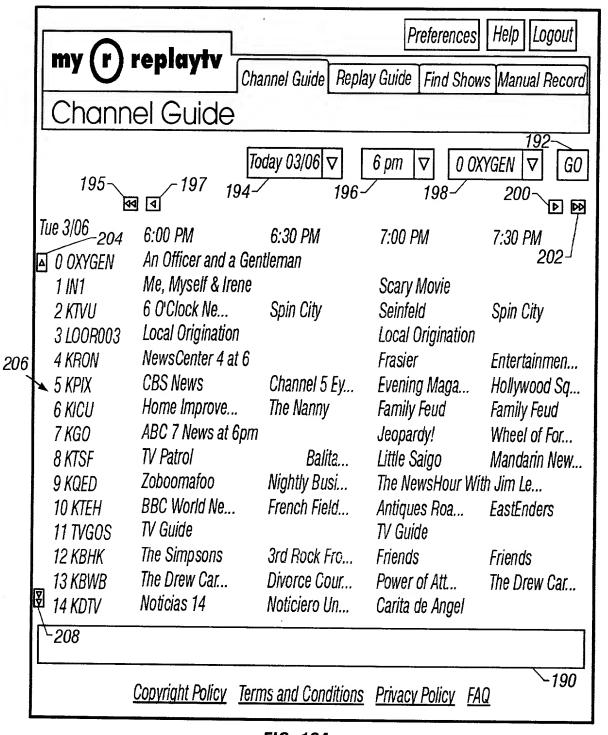


FIG. 12A

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| △ 5 | 16-30 | 31-45 | 09- | 61-75 | 06-92 | 91-105 | 106-120 | 121-145 | | | | | • |
|------------------------|---------------------|---------------------------|-------------------------|-------------------|---------------------|----------|------------------|-------------------|--------------------|-----------------------|--------|---------|-------|
| □ 7-15 | 16 | 31. | 46-60 | -19 | -9/ | 91- | 106 | 12 | 146 | 216 | | | |
| 4 PM | 5 PM | 6 PM | 7 PM | 8 PM | 9 PM | 10 PM | 11 PM | 12 AM | | | | | |
| Yesterday 8/17 | Today 8/18 ♥ | SAT 8/19 | SUN 8/20 | MON 8/21 | TUE 8/22 | WED 8/23 | THU 8/24 | FRI 8/25 | 212 214 | | | | |
| 2 KTVU \triangledown | 4 KRON | 5 KPIX | 6 FAM | 7 KG0 | 8 KRCB | 9 KQED | 10 KDTV | 11 KICU | 12 KBHK | 13 KBWB | 14 CNN | 15 DISN | 16 QV |
| View Description | Record | Record future episodes •• | Record + change options | Find all episodes | Why can't I record? | Close | 222 | | | | | 7016 | 2 |
| View Description | Record | Record all episodes •• | Record + change options | Find all episodes | Close | 18 | View Description | Find all episodes | Turn off recording | Change record options | Close | /50/ | |

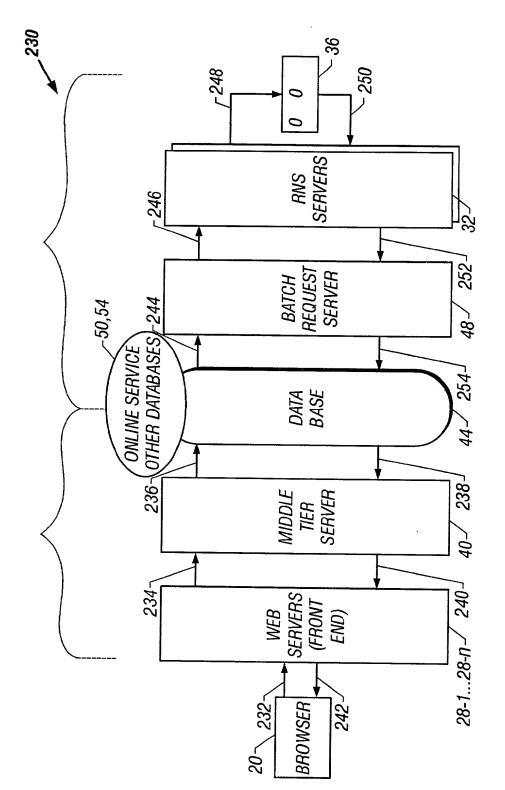
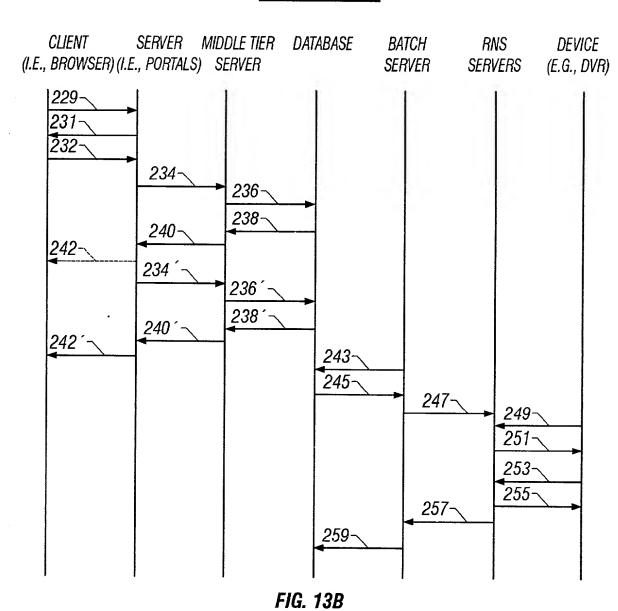


FIG. 13A

Replay Control Sheet 14 55 34





| API Routine | Function |
|------------------|--|
| CreateAccount | Creates an account for a new user based on the information received |
| Login | Tries to authenticate a user based on the input username and password combination |
| GetProfile | Returns the profile of the user and his units based on his userid |
| AddRequest | Adds a request to the unit's list of pending requests based on a set of request parameters, and returns the full status of the unit and of the pending requests, including those for recording specified show(s) and deleting recorded show(s) |
| DeleteRequest | Delete a request from the user list of pending requests |
| GetReplayGuide | Returns the Replay Guide of the unit as saved in the appropriate database for the specified unit |
| GetChannelLineUp | Returns the channel lineup of the unit based on the unit's setting |
| ChangePassword | Lets the user changes his password |
| GetEPG | Returns the current electronic program guide for the unit based on the settings of the unit |
| ShowGuide | Returns detailed information about a specified show or search show details for particular shows based on criteria given as parameters |
| | |

Replay Control Sheet 16 of 34

| API Routine | Input Parameters | Output Files (Corresponding XML elements) |
|------------------|---|--|
| CreateAccount | firstname, lastname, address1, address2, city, state, zipcode, | ACCOUNTXML |
| | serialnumber, login, password, creator | REPLAYERROR.XML |
| Login | login, password | ACCOUNT.XML |
| | | REPLAYERROR.XML |
| GetProfile | userid | PROFILE.XML (USERINFO, UNITINFO-I) |
| | | REPLAYERROR.XML |
| AddRequest | userid, unitid, reqtype(none, show, theme, update) | UNITSTATUS.XML (UNITINFO, REQUESTSTATUS-I) |
| | <u>reqtype=show:</u> showtype(single, repeat, manual single, | REPLAYERROR.XML |
| | manual repeat), headendid, trnsid, device, starttimegmt, name, | , , , |
| | durationinminutes, inputsource, quality, guaranteedrecord, | SUCCESS, GENERAL FAILURE, SCHEDULEFAILURE, |
| - | numepisodes, weekdayflags, earlystartminutes, | ROOMFAILURE) |
| | showguarminutes | |
| | regtype=theme: searchterm, searchflags, suzukiid, | |
| | durationinminutes, quality, guaranteedrecord | |
| | <u>reqtype=update:</u> updatetype(deleteshow, preserveshow, deletechannel), channelid, showid | |
| Dalata Dagwaat | | DELETEDERINATION |
| DeleteRequest | userid, unitid, requestid | DELETERESULT.XML |
| 0-10-1-0-1 | 11 441 | REPLAYERROR.XML |
| GetReplayGuide | userid, unitid | GUIDE.XML (REPLAYCHANNEL-I) |
| | | REPLAYERROR.XML |
| | | *Note: REPLAYCHANNEL Type:= (SINGLE, |
| | | SINGLEMANAUL, REPEAT, REPEATMANUAL, THEME, |
| 0 (0) | | THEMEEXACT, ZONE) |
| GetChannelLineUp | userid, unitid | CHANNELLINEUP.XML (CHANNEL-I) |
| 0/ 0 / | ., | REPLAYERROR.XML |
| ChangePassword | userid, currentpassword, newpassword | ACCOUNT.XML |
| 0 (500 | | REPLAYERROR.XML |
| GetEPG | userid, unitid, starttimegmt, durationinminutes, startchannel, | XML file based on tyguide.dtd & typrograms.dtd |
| 260.:1 | channelcount | REPLAYERROR.XML |
| ShowGuide | userid, unitid, query, start, count, levelofdetail | XML file based on tyguide.dtd & typrograms.dtd |
| | *Note: query keywords include actor, advisory, desc, mpaarating, title, etc. | REPLAYERROR.XML |

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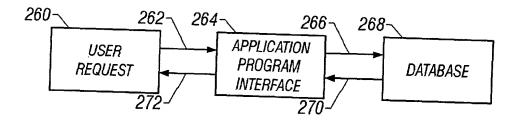
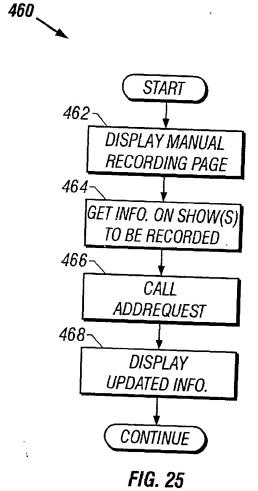


FIG. 16A



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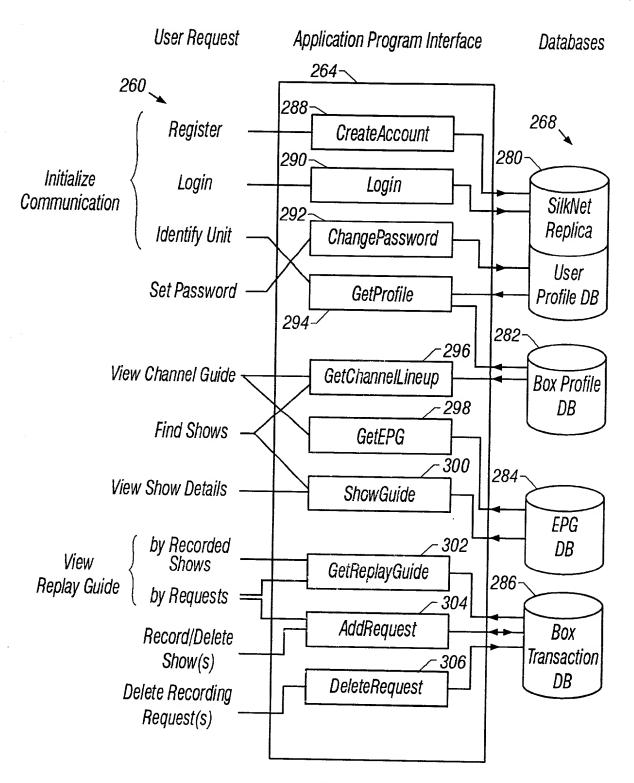


FIG. 16B

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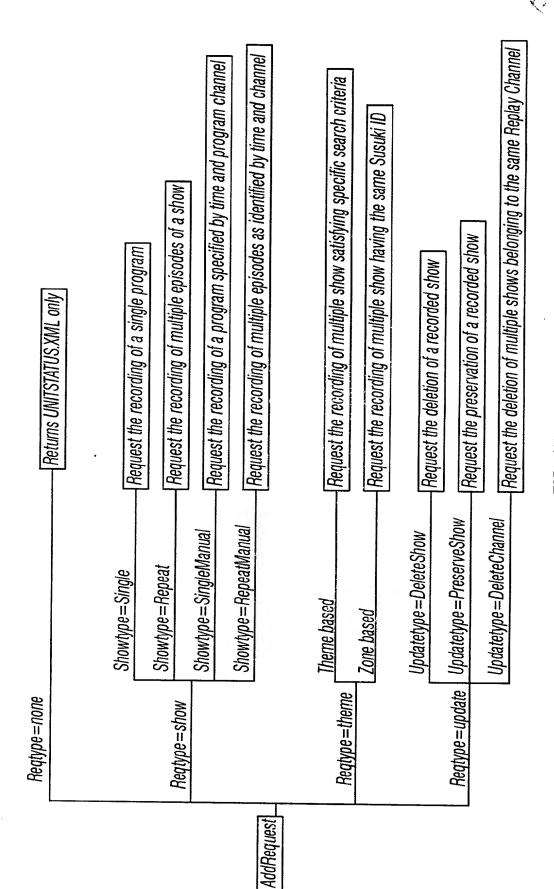


FIG. 17

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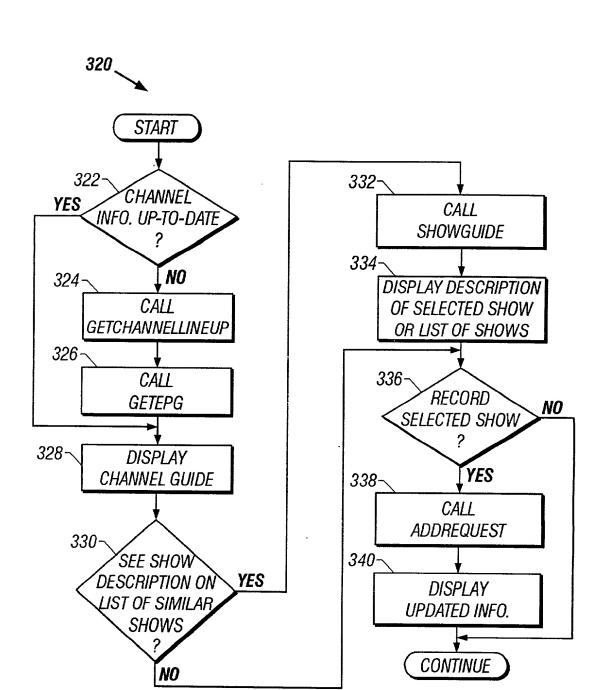


FIG. 18

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| my (r) repl | aytv | | | Preferences | Help Logout | | | | |
|--|---|---|--|-------------|---------------|--|--|--|--|
| , (J. 13p. | | Channel Guide | Replay Guide | Find Shows | Manual Record | | | | |
| Replay Guide | | | | | | | | | |
| Replay Shows Repla | y Channe | IS | 10 10 10 10 | <u> </u> | 350 | | | | |
| Review and edit your one time and recurring Replay TV requests Delete Selected Channels | | | | | | | | | |
| Channel | Detail | S | | Status | Request | | | | |
| □ A Fistful of Dollars | schedui from Ch or aroui Guarant | gle record Repla led to record A Fi nannel 21 (TBS) o nd 7:00AM - 9:00 leed at EXTENDEL else is schedule | istful of Dollars n Sun, 02/18 a NAM. D quality. | | Date 02/18 | | | | |
| □ Blown Away | schedul Channel around S at EXTEN | gle record Replay ed to record Blov 42(USAP) on Tu 9:00PM - 11:30P NDED quality. No ed to record. | vn Away from e, 01/16 at or M. Guaranteed | d | 01/16 | | | | |
| □ Cantonese News | continuo episode(every (S Channel | w-based Replay ously record the 1 (s) of Cantonese oun, Mon, Tue, We 8(KTSF) at or arc eed at EXTENDED | most current News occurring ed, Thu, Fri, Sat Dund 8:00PM - | t) on | 02/28 | | | | |
| □ Captain January | schedule Channel 3:30AM | le record Replay ed to record Capto 49(AMC) on Tue, - 5:00AM. Guara else is scheduled | ain January fro 01/09 at or an nteed at EXTEN | ound | 01/09 | | | | |

| | | | | (| Holo Hogort | | | | |
|---|-----------------------------------|---------------|----------------|------------------------|---------------|--|--|--|--|
| my (r |) replayty | | [PI | references | Help Logout | | | | |
| , (- |) . op, | Channel Guide | Replay Guide [| Find Shows | Manual Record | | | | |
| Replay Guide | | | | | | | | | |
| Replay Sh | ows Replay Channel | S | | | 350 | | | | |
| Review and edit recordings saved to your Replay TV unit Delete Selected Channels | | | | | | | | | |
| 06 | | | | . | 0' | | | | |
| Channel | Show Title/Episode | Date/Time | Statioi | n Duration | ı Size | | | | |
| A Fistful of Dollars | □ A Fistful of Dollar | s 02/18 7:00 | AM 21 TBS | S (2h) | 6.46% | | | | |
| Blown Away | □ Blown Away | 01/16 9:00 | PM 42 USA | AP (2h 30m |) 8.07% | | | | |
| Captain January | □ Captain January | 01/09 3:30, | AM 49 AM | C (1h 30m |) 4.84% | | | | |
| Firewalker | □ Firewalker | 02/27 8:00 | PM 21 TBS | 6 (2h) | 6.46% | | | | |
| On Deadly Ground | □ On Deadly Ground | d 01/07 9:00i | PM 4 KROI | V (2h) | 6.46% | | | | |
| Platoon | □ Platoon | 02/04 8:00 | PM 37 TNT | P (2h 30m |) 8.07% | | | | |
| The Bridge on the River Kwai | □ The Bridge on the River Kwai | 12/24 8:00, | AM 42 USA | AP (3h 30m) |) 11.30% | | | | |
| The Little Princess | □ The Little Princess | 12/26 4:15/ | 49 AM | C (1h 45m) |) 5.65% | | | | |
| The Trouble with Harry | □ The Trouble with Harry | 12/18 1:05ł | PM 49 AMO | C (1h 55m ₎ |) 6.19% | | | | |
| Welcome to ReplayTV | □ Welcome to ReplayTV | 09/08 10:49 | 9AM | (15m) | 2.42% | | | | |

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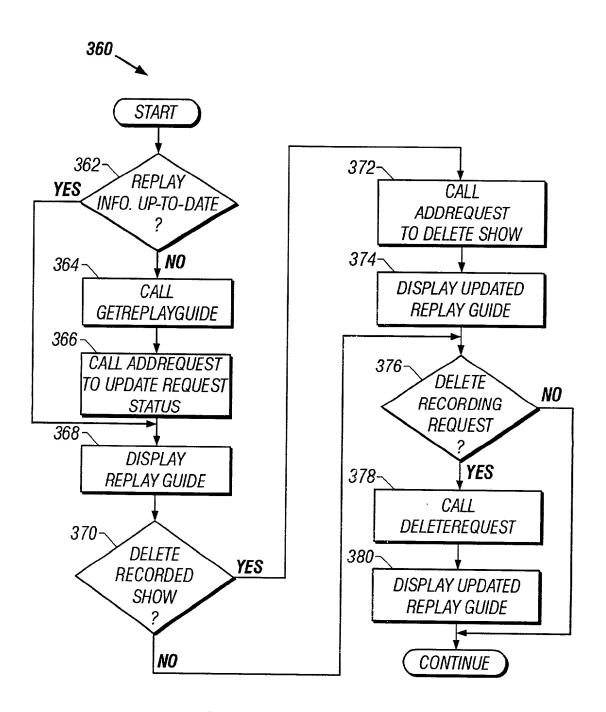


FIG. 20

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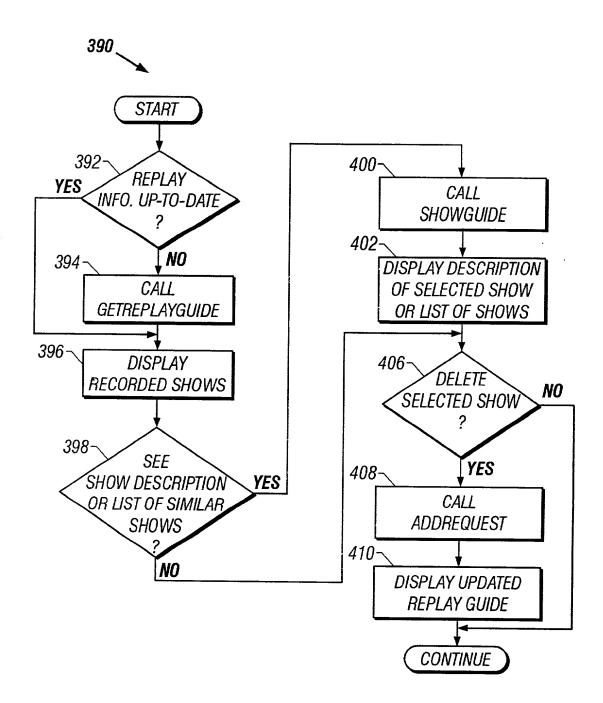


FIG. 21

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Channel Guide Replay Guide Find Shows Manual Record Find Shows | Help ||Logout Preferences Copyright Policy Terms and Conditions Privacy Policy FAQ □ Directors □ Actors in these categories: ☑ Descriptions Show Titles Enter the word or phrase that you r) replaytv Find Shows wish to find. Find:

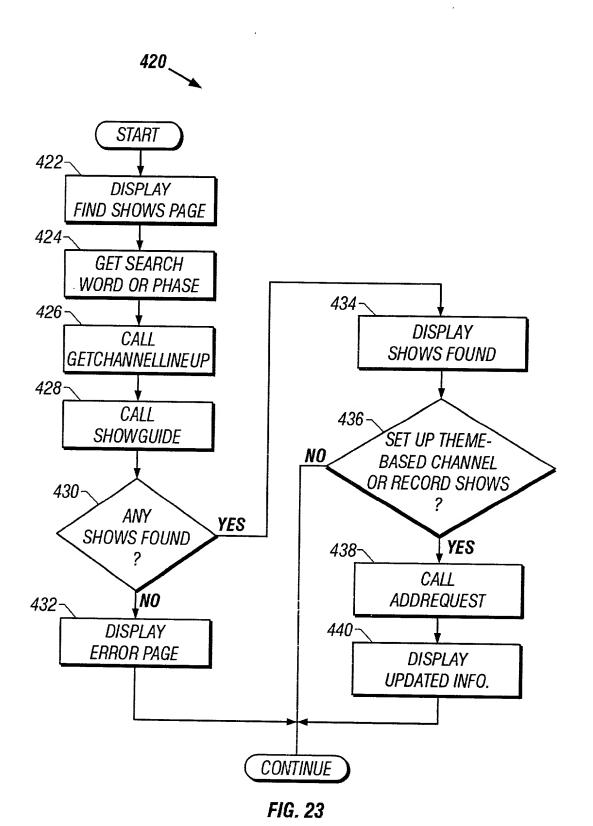
FIG. 22

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Manual Record Help Preferences FA0 | Channel Guide | Replay Guide | Find Shows Privacy Policy Copyright Policy Terms and Conditions Recording duration: 2001 0 Submit Request Single Recording Repeat Recording Manual Record (r) replaytv 7 0 Extended Start Date Mar ablaGuaranteed Yes | v Start Time End Time Channel Quality

FIG. 24A

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3h 45m available at medium quality Preferences Help Logout as of last connection Channel Guide | Find Shows | Manual Record | Replay Guide End Time [1]: 02 PM V □ Sun □ Sat □ Mon va Tue □ Wed □ Thu □ Fri Single Recording|Repeat Recording| Manual Record my (r) replaytv Start Time [7]: 58 PMT Standard 4 KRON Guaranteed Yes | v Submit Request Channel Channel Quality Days

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FIG. 24B

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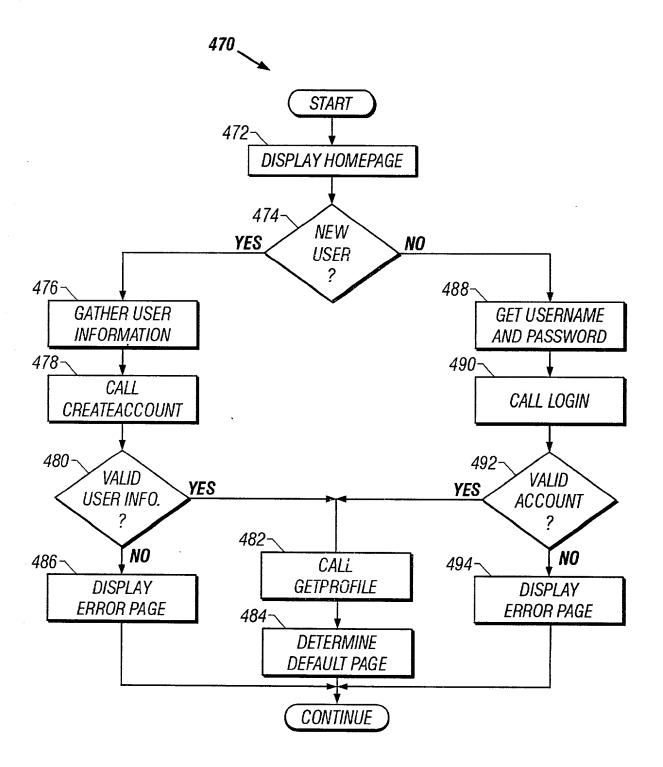


FIG. 26

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19A

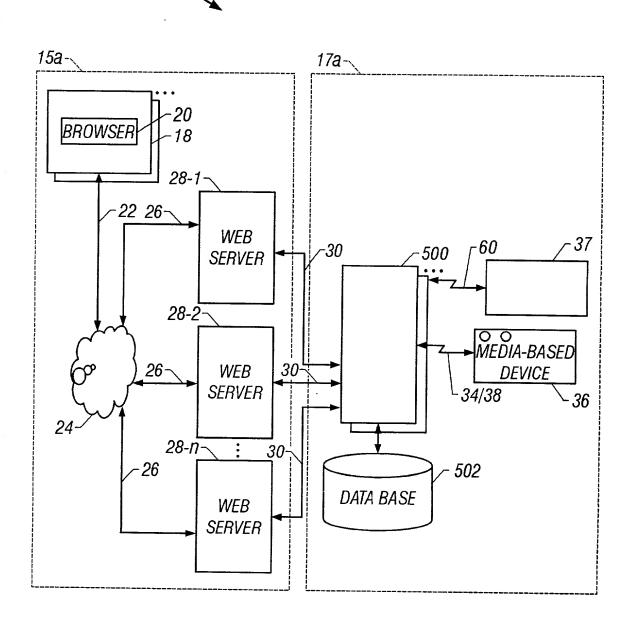
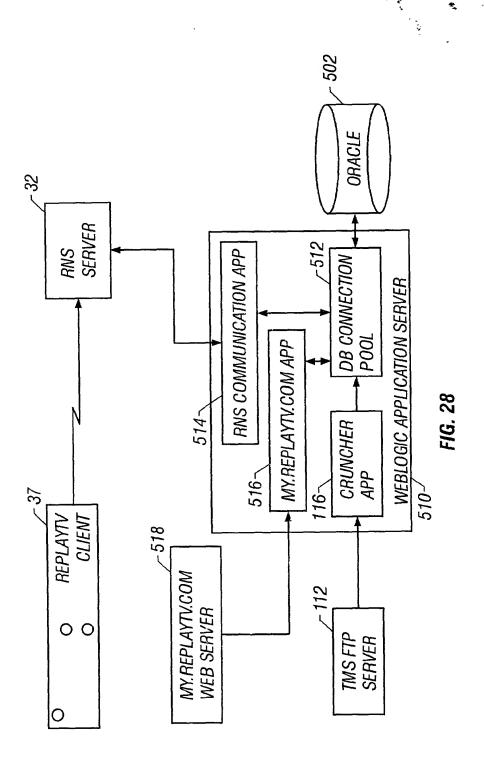
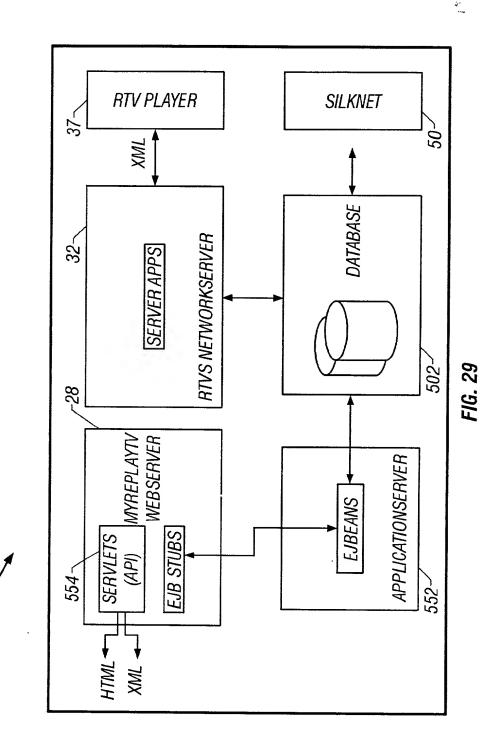


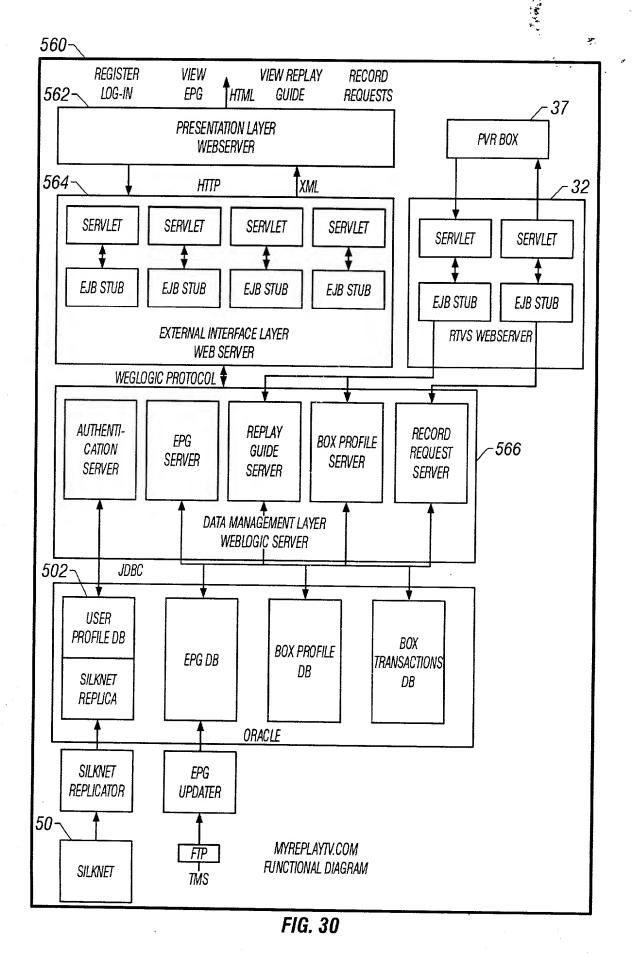
FIG. 27

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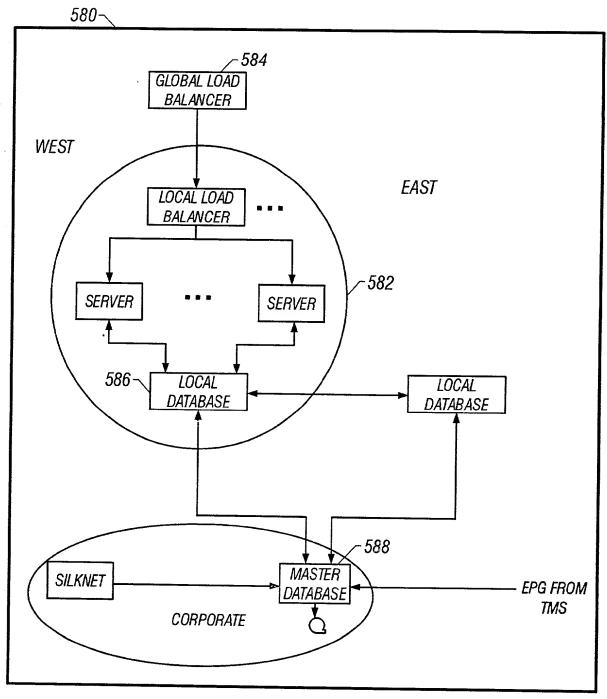


FIG. 31